

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in this application:

1.(Previously Presented) A medical radiation device for interstitial treatments of photodynamic therapy comprising:

multiple radiation output ports, each adapted to accept a waveguide;

multiple radiation sources incorporated in said device and optically connected to said multiple radiation output ports; and

means for independently and simultaneously controlling power output levels emitted through each individual radiation output port, wherein said power output level can be controlled/set independently for each individual output port.

2.(Original) The medical radiation device according to claim 1, wherein said radiation source comprises a diode unit, wherein said diode unit comprises at least two diode emitters.

3.(Original) The medical radiation device according to claim 2, wherein said diode emitters are selected from the group consisting of a diode laser, a light-emitting diode, a superluminescent diode, a Master Oscillator Power Amplifier (MOPA) diode, and a tapered diode.

4.(Previously Presented) The medical radiation device according to claim 1, further comprising at least one power source connected to one or more said radiation sources and connected to said control means, wherein a power input from said at least one power source is controllable by said control means for each radiation source.

5.(Original) The medical radiation device according to claim 1, wherein said control means is a computer.

6.(Original) The medical radiation device according to claim 1, further comprising means to input power levels for each output port.

7.(Original) The medical radiation device according to claim 1, wherein said control means comprises a memory unit to store information on treatments.

8. (Canceled)

9.(Original) The medical radiation device according to claim 1, further comprising a calibration means connected to said control means.

10.(Previously Presented) The medical radiation device according to claim 9, wherein said calibration means comprises:

a port for accepting an emission end of a radiation delivery device;

means for measuring a power output from said emission end; and

means for transmitting power output information from said measurement means to said control means.

11.(Original) The medical radiation device according to claim 10, wherein said measurement means is a photodiode.

12.(Previously Presented) A medical radiation system comprising:

the medical radiation device for interstitial treatments of photodynamic therapy of claim 1;
and

multiple radiation delivery devices, wherein each radiation delivery device is optically connected to one of said radiation output ports.

13.(Previously Presented) The medical radiation system according to claim 12, wherein each said radiation delivery device comprises a waveguide selected from the group consisting on an optical fiber and an optical fiber bundle.

14.(Previously Presented) The medical radiation system according to claim 12, wherein each said radiation delivery device comprises means to insert an emission end of each said radiation delivery device individually into a treatment area.

15.(Original) The medical radiation system according to claim 12, further comprising a calibration means connected to said control means.

16.(Previously Presented) The medical radiation system according to claim 15, wherein said calibration means comprises:

- a port for accepting an emission end of a radiation delivery device;
- means for measuring a power output from said emission end; and
- means for transmitting power output information from said measurement means to said control means.

17.(Original) The medical radiation system according to claim 16, wherein said measurement means is a photodiode.

18.(Canceled)

19. (Previously Presented) A medical radiation device for interstitial treatments of photodynamic therapy comprising:

- a plurality of radiation output ports, each adapted to accept a respective waveguide;
- a plurality of radiation sources, wherein each radiation source comprises a diode unit, and each diode unit comprises at least one diode emitter optically connected to at least one respective output port; and
- means for independently and simultaneously controlling power output levels emitted through each individual radiation output port, wherein said power output level can be controlled/set independently for each individual output port relative to a plurality of other output ports.

20. (Previously Presented) The medical radiation device of claim 18, further comprising an input means for entering the desired power level for each individual diode unit.

21. (Previously Presented) A medical radiation device for interstitial treatments of photodynamic therapy comprising:

- multiple radiation output ports, each adapted to accept a waveguide;

- multiple radiation sources incorporated in said device, wherein said radiation source comprises a diode unit, and wherein said diode unit comprises at least two diode emitters optically connected to said multiple radiation output ports;

- means for independently controlling power output levels emitted through each individual radiation output port simultaneously, wherein said power output level can be controlled/set independently for each individual output port; and

- an input means for entering the desired power level for each individual diode unit.

22. (Previously Presented) A medical radiation device for interstitial treatments of photodynamic therapy comprising:

- a plurality of diode sources, wherein a plurality of the diode sources each include a plurality diode emitters;

- a plurality of radiation output ports;

- a plurality of beam combiners optically coupled between the plurality of diode sources and radiation output ports, wherein each beam combiner combines and transmits radiation from at least one diode source to at least one respective output port; and

- at least one control unit operatively coupled to the plurality of diode sources and configured to independently control the power output levels of a plurality of diode sources relative to each other and, in turn, independently control the power levels of radiation emitted through a plurality radiation output ports relative to each other.

23. (Previously Presented) A device as defined in claim 22, wherein each beam combiner is optically coupled between a respective diode source and a respective radiation output port.

24. (Previously Presented) A device as defined in claim 22, wherein the at least one control unit independently and simultaneously controls the power output levels of a plurality of diode sources relative to each other to, in turn, independently and simultaneously control the power levels of radiation emitted through a plurality radiation output ports relative to each other.